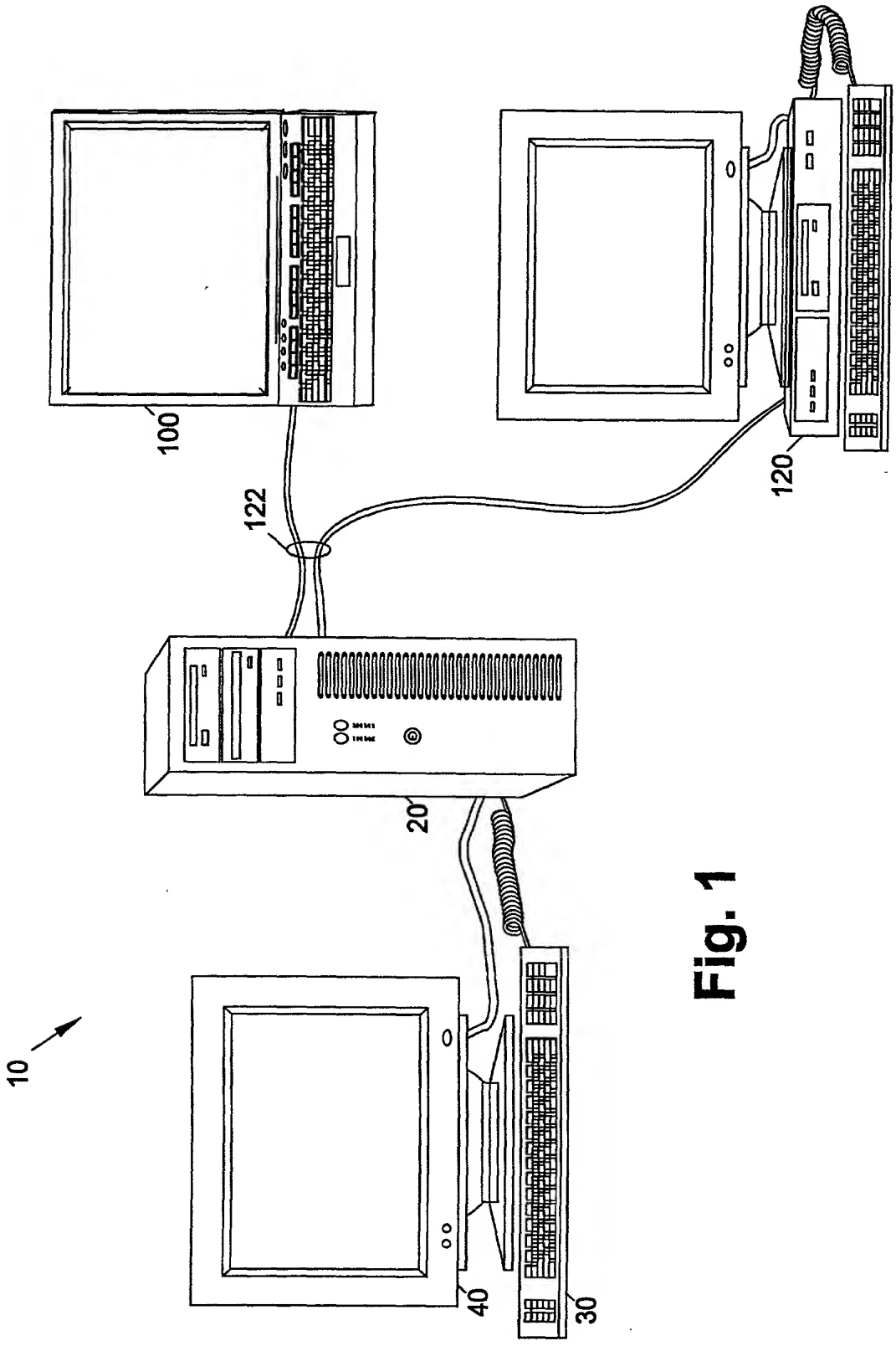

Fig. 1

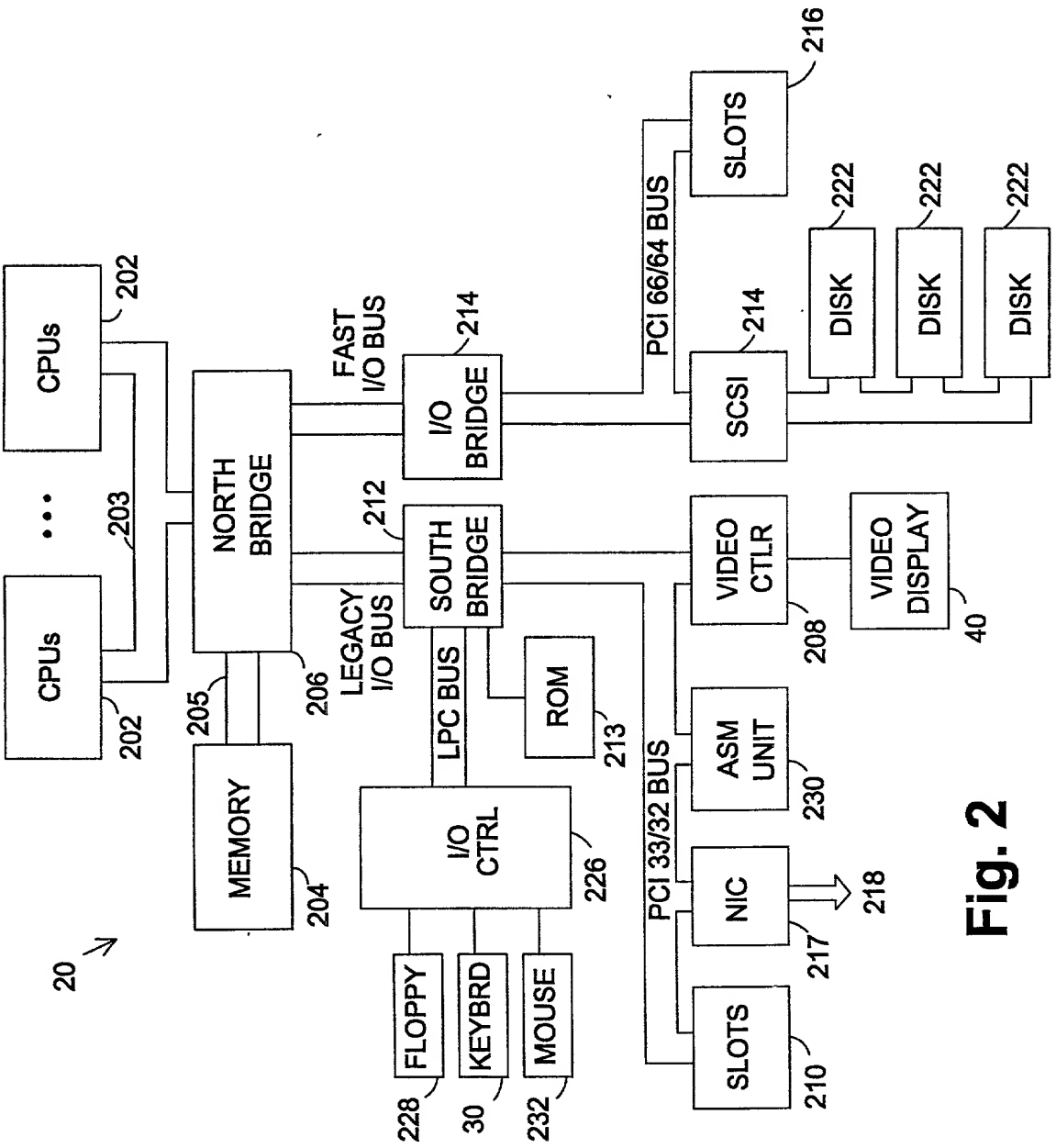
20
CPUs
202
CPUs
202
203
NORTH BRIDGE
205
206
MEMORY
204
FAST I/O BUS
LEGACY I/O BUS
212
SOUTH BRIDGE
LPC BUS
I/O BRIDGE
214
ROM
213
I/O CTRL
226
FLOPPY
228
KEYBRD
30
MOUSE
232
PCI 66/64 BUS
SLOTS
216
SCSI
214
DISK
222
DISK
222
DISK
222
VIDEO CTLR
208
VIDEO DISPLAY
40
ASM UNIT
230
PCI 33/32 BUS
NIC
217
218
SLOTS
210

Fig. 2

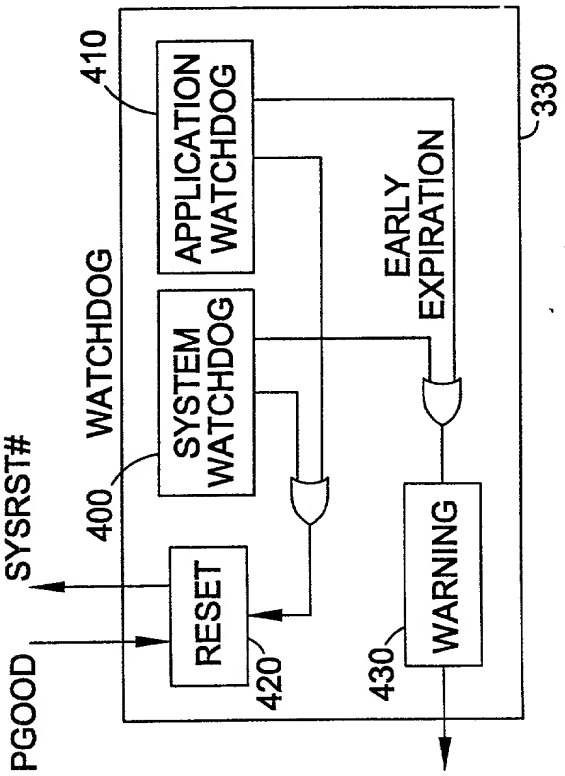
410
APPLICATION WATCHDOG
330
EARLY EXPIRATION
WATCHDOG
SYSTEM WATCHDOG
400
SYSRST#
RESET
420
PGOOD
WARNING
430

Fig. 4

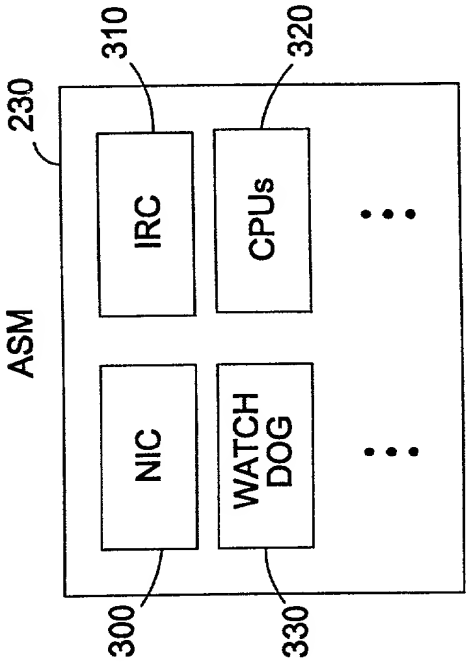
230
310
320
ASM
IRC
CPUs
NIC
WATCH DOG
300
330

Fig. 3

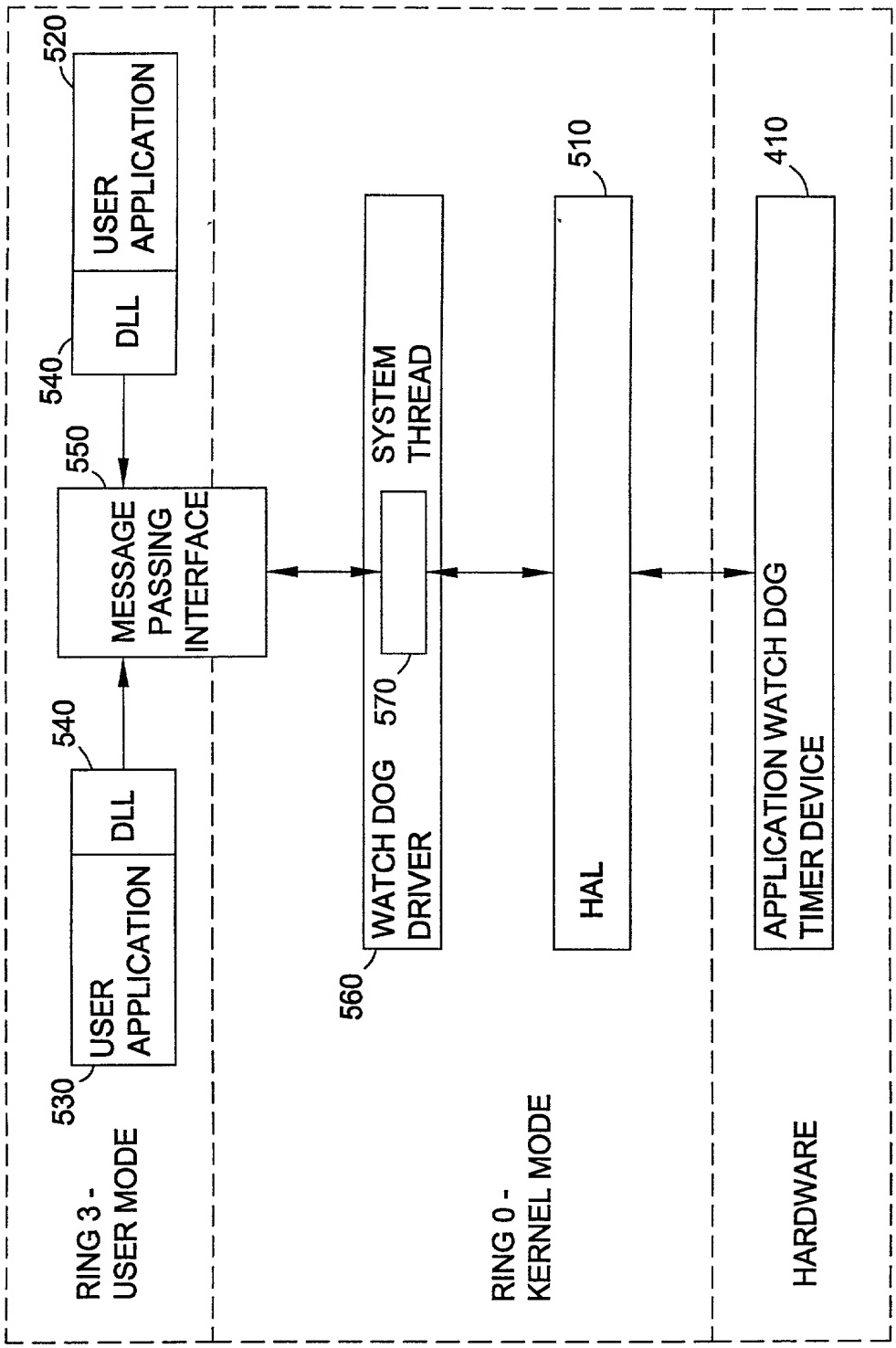
520
USER APPLICATION
DLL
540
550
MESSAGE PASSING INTERFACE
540
DLL
USER APPLICATION
530
SYSTEM THREAD
570
WATCH DOG DRIVER
560
510
HAL
410
APPLICATION WATCH DOG TIMER DEVICE
RING 3 - USER MODE
RING 0 - KERNEL MODE
HARDWARE

Fig. 5

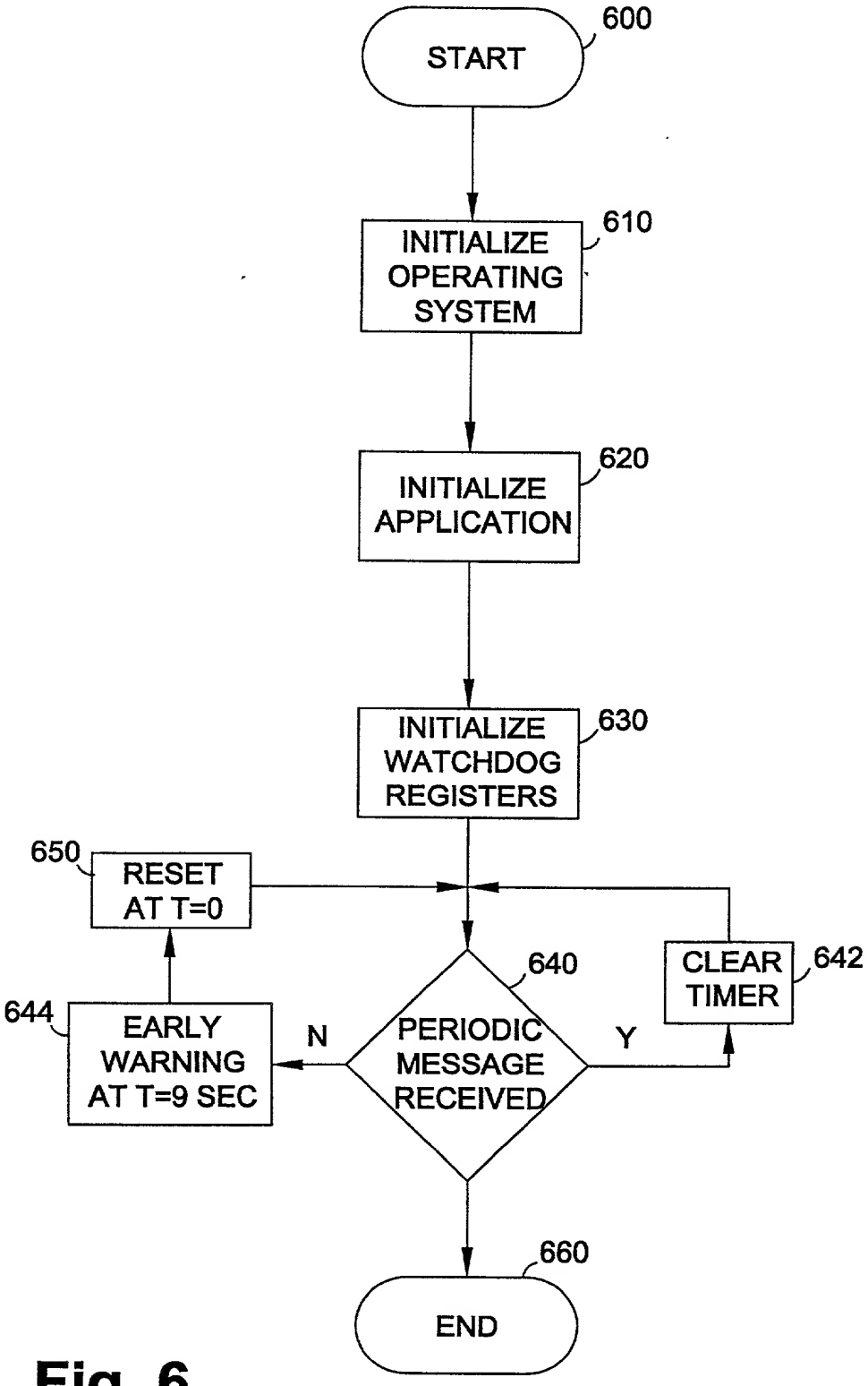
600
START
610
INITIALIZE OPERATING SYSTEM
620
INITIALIZE APPLICATION
630
INITIALIZE WATCHDOG REGISTERS
650
RESET AT T=0
640
PERIODIC MESSAGE RECEIVED
N
Y
642
CLEAR TIMER
644
EARLY WARNING AT T=9 SEC
660
END

Fig. 6

FOZ780 TH526660

Atty.'s Docket No. 1662-30500 (P00-2947)
Applicants: John LACOMBE et al.
Title: Hardware Implementation Of An Application-Level Watchdog Timer
Sheet 6 of 6 Express Mail Label No. EL818624666US

APPLICATION WATCHDOG TIMER VALUE REGISTER 700

LOC	BIT	READ/WRITE	RESET	DESCRIPTION
15:0	COUNT	R/W	0	TIMER CLEAR VALUE.

APPLICATION WATCHDOG TIMER CONTROL/STATUS REGISTER 710

LOC	BIT	READ/WRITE	RESET	DESCRIPTION
7	NMISTAT	R/W	0	Warning NMI Status
6	SMISTAT	R/W	0	Warning SMI Status
5:4	RESERVED	R	0	RESERVED
3	SMIEN	R/W	0	Warning SMI Enable
2	NMIEN	R/W	0	Warning NMI Enable
1	RELOAD	W	0	Timer Clear
0	ENABLE	R/W	0	Count Enable

Fig. 7